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The Effects of Unilateral Injections of Neuropeptide K (NPK) into the Dorsal Midbrain Central Gray (DMCG) on the Expression of Female Rat Sexual Behavior

Jason Pequette

Illinois Wesleyan University

Wayne Dornan, Faculty Advisor

Illinois Wesleyan University

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**THE EFFECTS OF UNILATERAL INJECTIONS OF
NEUROPEPTIDE K (NPK) INTO THE DORSAL MIDBRAIN CENTRAL
GRAY (DMCG) ON THE EXPRESSION OF FEMALE RAT SEXUAL
BEHAVIOR**

Jason Pequette, Department of Psychology, IWU, Dr. Wayne Dornan*

Previous studies have reported that the dorsal midbrain central gray (dMCG) is essential for the expression of female rat sexual behavior. Lesions of this area will inhibit sexual receptivity (lordosis) while stimulation will facilitate receptivity. Accumulating evidence indicates that neuropeptides, synthesized in the ventromedial nucleus of the hypothalamus and transported to the dMCG, play a role in the neural regulation of sexual behavior in the female rat. For example, one neuropeptide, substance P, a member of the tachykinin family, facilitates lordosis when injected into the dMCG. Recently, another neuropeptide and product of the substance P gene has been implicated in rat sexual behavior. This neuropeptide is called neuropeptide K (NPK). NPK has been reported to have an inhibitory effect on the expression of male rat sexual behavior following direct injection into the brain. Presently, the role of NPK in the regulation of female sexual behavior is unknown. Therefore, in a pilot study we assessed the effects of NPK on female rat sexual behavior following injections into the dMCG. [Nle¹⁰]-Neurokinin A (4-10) (1000ng/0.5μl), an NPK agonist, or Saline (0.5μl) was injected unilaterally into the dMCG in ovariectomized estrogen- progesterone- treated female rats. The effect of these injections on sexual receptivity and proceptivity were then assessed. The results of this experiment will be presented at the conference.